OAK RIDGE GASEOUS DIFFUSION PLANT

Additional laboratory analyses of samples taken in February, March and April of calendar year 1971 permit us to revise the estimated quantities of uranium released during calendar year 1970. The level of operation in 1970 was similar to that of the first four months of 1971. The increase in quantities released in the liquid effluents 1970 over 1969 was due primarily to an accidental release of 227 kgs from the feed vaporization facility, K-1131, in December.

The estimated quantity in the gaseous effluents is 7.7 kgs greater than that reported for 1969. One new release point was added; 4.8 kgs were released at this point. The facility monitored by this release point did not operate in 1969. Points G12 and G13 have been combined and the increase of 14.7 kgs was caused by operational difficulties in the purge cascade during the month of February. The toll enrichment facility did not experience any accidental releases during 1970 and the quantity at this point is 8.3 kgs less than the estimate for 1969.

The upgrading of the monitoring of the significant effluents is continuing and additional data are being collected.

It should be pointed out that most of the uranium hexafluoride in the gaseous effluents reacts with moisture in the air and is deposited within the plant environs and ultimately appears in one of the liquid effluents.

TABLE 1

[illegible]OUS WASTE [illegible] (RA[illegible]
Plant [illegible] Reporting [illegible]

Type Radioactive Material	Enrichment	Release Point No.	Bldg. No.	Area Exhausted	Type Operation	[illegible] System	Sampling Procedure	Release [illegible]	[illegible] Radioactive Matl. Released [illegible]
Uranium	< 1.0	G1	K-1004-L	[illegible]ey and Operating Floor	Pilot Plant	N[illegible]	None	.013	0.41
Uranium	< 1.0	G2	K-1004-A	Hood [illegible] Room 22	Laboratory	[illegible]	Proportional Air Samples	185.0	< 0.01
Uranium	< 1.0	G3	K-1004-C	Hood [illegible] Room 207	Laboratory	[illegible]	Proportional Air Samples	1091.3	< 0.01
Uranium	Depleted	G4	K-1401	[illegible] Development Test Loop	Test Loop	[illegible]	None	8.2	2.72
Uranium	Depleted	G5	K-1420	D[illegible]yer	Drying	[illegible]	Gas Bulb	215.7	0.36
Uranium	Depleted	G6	K-1421	I[illegible]ator	Burning	[illegible]	None	-	0.30
Uranium	Depleted	G7	K-1413	De[illegible]ment Test Loop	Development UF_6 Studies	C[illegible]	Loss based on design	205.1	1.59
Uranium	Depleted	G8	K-1413	Development Test Loop	Development	C[illegible] NaF Traps	Loss based on design	1.58	0.11
Uranium	< 1.0	G9	K-1423	S[illegible] Room	Cylinder Sampling	[illegible]	None	-	0.
Uranium	< 5.0	G10	K-310-3	Pump Seals	UF_6 Separation	A[illegible] Traps and [illegible]	Gas Bulb	5.18	1.56
Uranium	< 5.0	G11	K-311-1	Pump Seals	UF_6 Separation	A[illegible] Traps and [illegible]	Gas Bulb	5.18	1.56
Uranium	< 5.0	G12*	K-310-3	Cascade Purge	Side Purge UF_6 Separation	[illegible]			
Uranium	< 5.0	G13	K-311-1	Cascade Purge	Top Purge UF_6 Separation	[illegible] Traps	Absorption in H_2O Solution	1108.0	28.13
Uranium	< 5.0	G14	K-413	Pu[illegible]ls	UF_6 Separation	[illegible] Traps and [illegible]	Gas Bulb	0.016	< .01
Uranium	< 5.0	G15	K-29	C[illegible] Equipment	Purging	[illegible]	Gas Bulb	0.2[illegible]	.62
Uranium	< 5.0	G16	K-29	P[illegible]ls	UF_6 Separation	[illegible] Traps and [illegible]	Gas Bulb	[illegible]	1.14
Uranium	Depleted	G17	K-633	Pu[illegible]ls	UF_6 Separation	[illegible] Traps and [illegible]	Gas Bulb	0.016	< .01
Uranium	Depleted	G18	K-633	Te[illegible]p Equipment	Purging	[illegible]	Gas Bulb	0.003	0.16
Uranium	Depleted	G19	K-633	Te[illegible]p Equipment	Purging	[illegible]	Gas Bulb	0.035	0.11
Uranium	< 5.0	G20	K-31	Pu[illegible]ls	UF_6 Separation	A[illegible] Traps and C[illegible]rs	Gas Bulb	11.716	0.88
Uranium	< 5.0	G21	K-31	Cascade Equipment	Purging	A[illegible] Traps	Gas Bulb	0.316	1.53
Uranium	< 5.0	G22	K-33	Cascade Equipment	Purging	A[illegible] Traps	Gas Bulb	0.629	1.83

*This release point is now combined with [illegible] and is reported therein.

TABLE 1 (Continued)

GASEOUS WASTE STREAMS (RADIOACTIVE MATERIALS)

Plant ORGDP Reporting Period

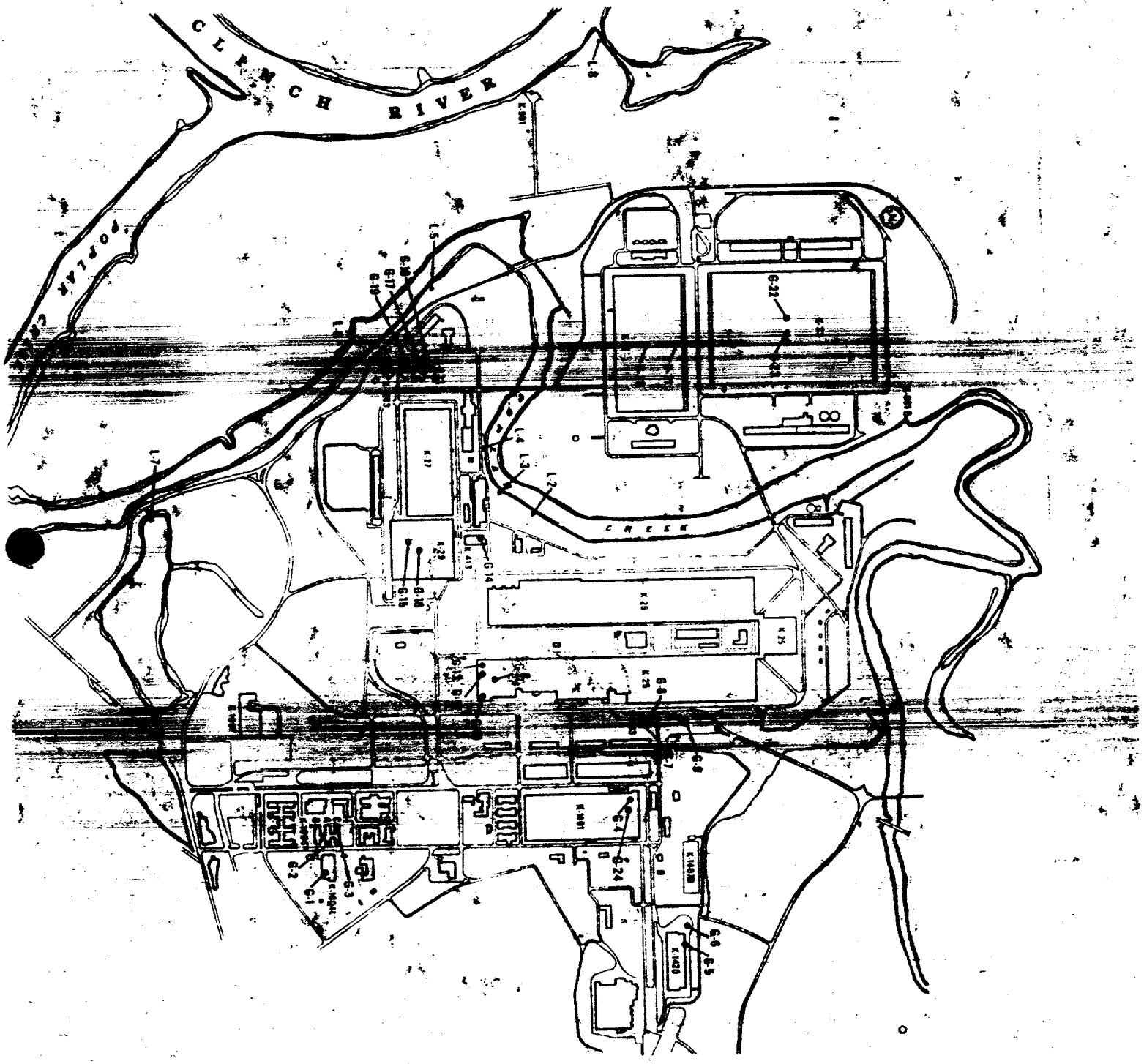
Type Radioactive Material	Enrichment	Release Point No.	Bldg. No.	Area Exhausted	Type Operation	Type Filtering System	Sampling Procedure	Total Release Pt. Air Vol. (cu ft) Million	Quantity Radioactive Matl. Released Kgs Uranium
Uranium	< 5.0	G23	K-33	Pump Seals	UF_6 Separation	Alumina Traps and Oil Filters	Gas Bulb	19.77	1.13
Uranium	2.0	G24**	K-1401	Cascade Equipment	Decontamination	None	Gas Bulb	171.0	4.81
									49.39

**G24 - New release point - not reported in 1969 since facility did not operate in 1969.

TABLE 2
LIQUID WASTE STREAMS (RADIOACTIVE MATERIALS)
Plant ORGDP Reporting Period 1970

Type Radioactive Material	Enrichment	Release Point No.	Bldg. No.	Type Operation	Type Waste Stream	In-Plant Waste Treatment	Type In-Plant Release Point	Final Release Point To Environment	Sampling Procedure	Total Vol. Waste Stream (gals) MM*	Quantity Radioactive Matl. Released (Kgs)
Uranium	<5.0	L1	1407-B	Uranium Recovery & Decontamination	Dilute Uranium Solutions	Holding Pond	Pipeline	Poplar Creek	Weekly Composites	331.65	200.93
Uranium	<5.0	L2	1410	Plating	Dilute Acid	Neutralization	Pipeline	Poplar Creek	Grab	0.66	0.10
Uranium	<5.0	L3	1231	Chemical Process	Dilute Acid	Neutralization	Pipeline	Poplar Creek	Grab	1.8	0.015
Uranium	2.0	L4	1131	Feed Vaporization	Condensate	None	Pipeline	Poplar Creek	Grab	2.1	228.50
Uranium	<5.0	L5	633	Test Loop	Water	None	Storm Sewer	Poplar Creek	Grab	0.53	0.015
Uranium	<5.0	L6	1203	Sewage Disposal	Sewage	Primary	Pipeline	Poplar Creek	Weekly Composites	297.48	8.65
Uranium	<5.0	L7	Laboratory Area	Laboratory and Administration Area	Lab Drains and Storm Sewers	Holding Pond	Pipeline	Poplar Creek	Weekly Composites	936.1	36.19
Uranium	<5.0	L8	892	Recirculating Water Treatment	Recirculating Water Sludge	Holding Pond	Pipeline	Clinch River	Weekly Composites	512.98	9.20
											483.60

*Million


CLINCH RIVER
POPLAR CR
CREEK